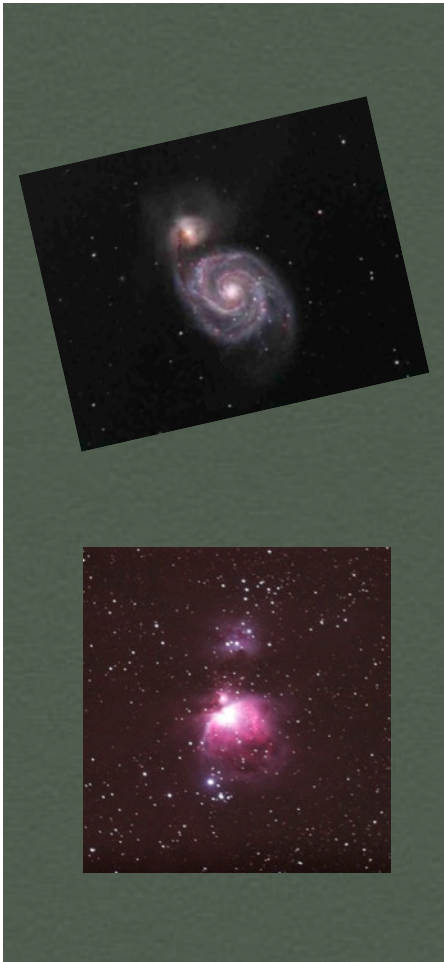


A whole night of observing with just one eyepiece!

A Messier Marathon at the 2011 Winter Star Party



Faced with a very windy night, but clear skies, the author decided to take the opportunity to try a Messier Marathon. Only defeated by some dawn clouds, 106 objects were observed, and remarkably all with a 13mm Televue Ethos eyepiece.

I believe star parties are an important contribution to the progress of amateur astronomy. Conditions in the UK where I live are not generally very favourable due to weather and light pollution, so I ended up becoming a regular attendee at the Texas and Winter Star Parties in the US.

I have built an ultraportable 10" Dobsonian specifically for these trips and in it's case it is rugged and light enough to just bring as checked baggage.

The 2011 Winter Star Party was at its usual location down in the Florida Keys where it is noted for steady seeing and at a latitude of about 24N, great views of the southern skies. Unfortunately this year the event was also noted for some strong winds, with some gusts sufficient to blow over telescopes!

Having come 4500 miles I was not going to allow the wind to ruin what was otherwise a perfect night and the idea of a Messier Marathon came to me. March is the best time of the year, and being so far south makes for the best chance of

observing all 109/110 objects, (there is controversy around whether M102 should or should not be a Messier object. To be safe I also observed NGC5866 which is currently the favourite candidate, but to my mind if Pluto is not a planet then NGC5866 should not be a Messier!)

As a fairly experienced Messier observer I decided to just use the Sky & Telescope Messier Card as my sole reference guide and so I made sure my red dot finder was very well aligned with the telescope. I put in my 13mm Ethos

eyepiece to start of with, which at a magnification of x90 would give me a 67' field of view. As it turned out this initial choice of eyepiece was a very good decision!

This was my first Messier marathon and looking back there are four key challenges.

Catching the first and last objects during dusk and dawn twilight.

Working through the Virgo cluster.

Identifying all the many Messier's in the crowded Sagittarius region.

Finding a few notoriously faint objects, eg M76, M109

In all cases maximum contrast is fundamental and here the Ethos is a big help. Having the maximum magnification for any given field of view will produce the darkest background sky and as one of the newer products from the Televue stable, the Ethos also benefits from the latest advances in optical design and manufacture which significantly boost contrast amongst other things.

Although my scope has digital setting circles I purposely didn't use these and so the first challenge was finding the early targets in the dusk twilight and although not easy was readily accomplished by star hopping along the lines described in www.seds.org/messier. This also required me to move my telescope to the most favourable location the first of three times that night. Getting a clear view of the horizon is critical to success with the first and last objects on the list.

M74 & M77, the first and amongst the most difficult objects of the whole marathon were located surprisingly easy and this bode well for the rest of the night. I attribute this mostly to the eyepiece which produces such high contrast over a field of view greater than one degree and really does make it easier to find fainter objects. Quickly sweeping up M33, M31, M32, M110, M52, M103, M76 & M34 in the next few minutes I was then left with a leisurely progression through the list. Until the Sagittarius cloud rises there are quite long gaps and these were filled with visits to other star party observers, the on-site all-night cafe (a real life saver!), or to take some exposures with my modified Canon 20D mounted on an AstroTrac.

It was only about half way through the night that I realised that I was still using the same 13mm Ethos. I guess most observers have a favourite eyepiece and mine used to be a 17mm Nagler until I acquired the Ethos. The eyepieces have almost the same fields of view but the Ethos has 30% extra magnification and a very noticeable increase in contrast. The eye-relief is excellent at 15mm making for very comfortable viewing, and with pin sharp stars out to the very edge of the field.

At about 11pm I tackled the Virgo cluster, using the more detailed map on the reverse of the Messier Card. Starting with M84. I "Galaxy hopped" through the cluster, taking care not to be distracted by the many NGCs that were also visible.

The pair of M84 & M86 at the bottom of Markov's Chain are a good starting point, lying close to the edge of the busy field, almost exactly half way between Vindemiatrix and Denebola, and quite bright and distinct. The first seven Messier's are found by a progressive sweep from one to the next in the order;

M84, M86 -> M87 -> M89, M90 -> M91 -> M88

After these, I go back to M87 & M89, but this time turn "left" to pick up three more;

M87 -> M89 -> M58 -> M59, M60

The final three are separated a little and I think are best done by picking up M99 and then hopping from there.

M99 -> M98 -> M100

The greatest challenge I found was M91, being magnitude 10.2, small and fairly far out from the others.

M102 is an interesting object with many theories as to what it is. Méchain wrote to Messier announcing his discovery of the object, but later retracted it as being a re-observation of M101. However these are a long way apart. Others have suggested that Méchain saw NGC5866, which now is often labeled as M102. For completeness I decided to capture NGC5866 as "M102", (I also believe Pluto should still be our ninth planet!)

Having completed the cluster and a few more, I had reached about 60 objects and not missed one yet. A break was in order and after some coffee and delicious chocolate brownie from the WSP all

night kitchen concession, I turned my attention to capturing some more images with my camera set-up.

Before resuming the marathon just before 2am, I moved the telescope to a position with an excellent eastern horizon, ready for the dawn twilight objects.

I still had 40 objects to capture but by now adrenalin was kicking in as I was starting to think I might complete the whole marathon, or at least a very high number. All was going well until about 5am, when some clouds appeared low over the Atlantic in the East. Just where my last objects were going to rise!

I carried on, working hard to capture the last few objects as they rose in the East. The clouds didn't get any worse, but they were definitely making things difficult.

The crunch came as the sky started to brighten as dawn approached. To see the last three objects, M72, M73 & M30 I had to wait for them to rise above the clouds, but the sky background just became too bright. M30 is notoriously the most difficult especially at northern latitudes, but to lose M72 and M73 to a cloud was quite frustrating!

So out of my target list of 110 Messier's (remember I had included M102), I had failed on just three. 107 Messier's in one night was very satisfying and so I finished the night with a big breakfast at the WSP canteen.

The really best bit was when other attendees discovered what I had achieved, while

they were asleep thinking it was too windy to observe!

Later that day I related my story to Al Nagler of Televue fame, who was delighted to hear what I had achieved, and was particularly interested to learn that it had been done with just the 13mm Ethos. On reflection he thought it wasn't surprising given the wide field of view and the dark background sky coming from a combination of high magnification and the new design and coatings. We rounded off our chat with me taking a photo of Al holding my Televue eyepiece set in their custom case (which is another story!)

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